WHAT IS CLAIMED IS:

1. A method of synchronizing two digital data streams with the same content, the method comprising the steps of:

a) generating at given intervals for each of the two digital data streams S_1 and S_2 at least two characteristic numbers expressing at least one parameter characteristic of their content;

b) generating from said numbers points D_1 and D_2 for each of the two streams S_1 and S_2 representing at least one of said characteristic parameters in a space of at least two dimensions, the points D_1 corresponding to the stream S_1 and the points D2 corresponding to the stream S2 being situated in a time period T and defining trajectories representative of the data streams S_1 and S_2 to be synchronized;

c) shifting the time periods of duration T assigned to the digital data streams S_1 and S_2 relative to each other by calculating a criterion of superposition of said trajectories having an optimum value representing the required synchronization;

d) choosing the shift between the time periods corresponding to said optimum value as a value representative of the synchronization.

2. A method according to claim 1, wherein one of the digital data streams is a reference stream S_1, the other data stream is a stream S_2 received via a transmission system, the numbers characteristic of the reference stream S_1 are transmitted therewith, and the numbers characteristic of the received stream S_2 are calculated in the receiver.

3. A method according to claim 1, wherein the step c) entails:

c1) calculating a distance D between a first trajectory represented by the points D_1 belonging to a

first time period of duration T and a second trajectory represented by the points D_2 belonging to a second time period of duration T, said distance D constituting said superposition criterion; and

c2) shifting said first and second time periods of duration T relative to each other until a minimum value is obtained for the distance D that constitutes said optimum value.

4. A method according to claim 3, wherein the distance D is an arithmetic mean of the distances d between corresponding points D_1, D_2 of the two trajectories.

5. A method according to claim 4, wherein said distance d between the points is a Euclidean distance.

6. A method according to claim 1, wherein the step c) entails:

c1) calculating a correlation function between corresponding points D_1, D_2 of the two trajectories, said correlation function constituting said superposition criterion; and

c2) shifting said first and second time periods of duration T relative to each other until a minimum value of the correlation function is obtained that constitutes said optimum value.

7. A method according to claim 1, wherein the step c) entails:

c1) converting each trajectory into a series of angles between successive segments defined by points on the trajectory; and

c2) shifting said first and second time periods of duration T relative to each other until a minimum value is obtained for the differences between the values of angles obtained for homologous segments of the two trajectories, said minimum value constituting said

optimum value.

8. A method according to claim 1, wherein the step c) entails:

c1) converting the two trajectories into a series of areas intercepted by successive segments defined by points on said trajectories, the total intercepted area constituting said superposition criterion; and

c2) shifting the time periods of duration T relative to each other until a minimum value is obtained of said total intercepted area, which minimum value constitutes said optimum value.

9. A method according to claim 1, wherein one of said given intervals is equal to Δ for one of the data streams S_1 and equal to $r < \Delta$ for the other data stream S_2.

10. A method according to claim 1, effecting a first synchronization by choosing the same given interval Δ for the two data streams and then a second synchronization for which the given interval is equal to Δ for one of the data streams S_1 and equal to $r < \Delta$ for the other data stream S_2.

11. A method according to claim 1, wherein the generation of said characteristic numbers for a reference audio data stream and for a transmitted audio data stream comprises the following steps:

a) calculating for each time window the spectral power density of the audio stream and applying to it a filter representative of the attenuation of the inner and middle ear to obtain a filtered spectral density;

b) calculating individual excitations from the filtered spectral density using the frequency spreading function in the basilar scale;

c) determining the compressed loudness from said individual excitations using a function modeling the non-

linear frequency sensitivity of the ear, to obtain basilar components; and

d) separating the basilar components into n classes, where n is much lower than the number of audio samples in a time window, and preferably into three classes, and calculating for each class a number C representing the sum of the frequencies of that class, there being either n characteristic numbers consisting of a number C or n' < n characteristic numbers generated from said numbers C.

12. A method according to claim 1, wherein the generation of a characteristic number for a reference audio data stream and for a transmitted audio data stream comprises the following steps:

a) calculating N coefficients of a prediction filter by autoregressive modeling; and

b) determining in each time window the maximum value of the residue as the difference between the signal predicted by means of the prediction filter and the audio signal, said maximum prediction residue value constituting one of said characteristic numbers.

13. A method according to claim 1, wherein the generation of said characteristic numbers for a reference audio data stream and for a transmitted audio data stream comprises the following steps:

a) calculating for each time window the spectral power density of the audio stream and applying to it a filter representative of the attenuation of the inner and middle ear to obtain a frequency spreading function in the basilar scale;

b) calculating individual excitations from the frequency spreading function in the basilar scale;

c) obtaining the compressed loudness from said individual excitations using a function modeling the non-linear frequency sensitivity of the ear, to obtain basilar components;

d) calculating from said basilar components N′ prediction coefficients of a prediction filter by autoregressive modeling; and

e) generating at least one characteristic number for each time window from at least one of the N′ prediction coefficients.

14. A method according to claim 13, wherein the characteristic numbers consist of 1 to 10 of said prediction coefficients and preferably 2 to 5 of said coefficients.

15. A method according to claim 1, wherein one characteristic number is the instantaneous power of an audio signal.

16. A method according to claim 1, wherein one characteristic number is the spectral power density of an audio signal.

17. A method according to claim 1, wherein one characteristic number is the bandwidth of an audio signal.

18. A method according to claim 1, wherein one characteristic number is the continuous coefficient of the transformation by a linear and orthogonal transform of at least one portion of an image belonging to the data stream, said transformation being effected by blocks or globally.

19. A method according to claim 1, wherein one characteristic number is the contrast of at least one area of an image belonging to the data stream.

20. A method according to claim 1, wherein one characteristic number is the spatial or temporal activity

of at least one area of an image.

21. A method according to claim 1, wherein one characteristic number is the average brightness of at least one area of an image.

22. A method according to claim 1, wherein said points D_1 and D_2 are generated from at least two characteristic parameters.

23. A method according to claim 22, wherein said characteristic parameters are audio parameters.

24. A method according to claim 22, wherein said characteristic parameters are video parameters.

25. A method according to claim 1, wherein the data stream comprises video data and audio data and the method effects firstly video synchronization based on points D_1 and D_2 associated with at least one characteristic video parameter corresponding to said video stream and secondly audio synchronization based on points D″1 and D″2 associated with at least one characteristic audio parameter corresponding to said audio stream.

26. A method according to claim 25, including a step of determining the synchronization shift between the video stream and the audio stream as the difference between said shifts determined for the video stream and for the audio stream.